CHAPTER III

THE RESEARCH METHODOLOGY

A. The Research Design

This research is a correlational research. Anderson and Arsenault stated that the research is one way of describing in quantitative terms of degree to which the variables are related.[1] There are two variables in this research; they are the independent variable and dependent variable. The independent variable is a stimulus variable or input, it is that factor which is measured, manipulated, or selected by the experimenter to determine its relationship to an observed phenomena.[2] Meanwhile, the dependent variable is response variable or output, it is that factor which is observed and measured to determine the effect of the independent variables. In this research, the students' self-esteem is the independent variable and symbolized by X, and the students' achievement in learning English is the dependent variable and symbolized by Y.

B. The Location and Time of the Research

The research was conducted at Islamic Junior High School of Ponpes Darel Hikmah Pekanbaru. It is located in Jl. Manyar Sakti Pekanbaru. The research was carried out in April 2014.

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[1] Gary Anderson and Nancy Arsenault, *Fundamental of Educational Research* (USA: Taylor and Francies e-Library, 2005), p. 118

[2] Yogesh Kumar Singh, *Fundamental of Research Methodology and Statistics* (New Delhi: New Age International Publishers, 2006), p. 63

C. The Subject and Object of the Research

The subject of this research was the second year students of Islamic Junior High School of Ponpes Darel Hikmah Pekanbaru. And the object of this research was the students' self-esteem and their achievement in learning English.

D. The Population and Sample of the Research

According to Gay, population is a sample comprises the individuals, items, or events selected from a larger group.[3] The population of this research was the second year students at Islamic Junior High School of Ponpes Darel Hikmah Pekanbaru. There were 10 classes consisting of 307 students as the population.

Table III.1
The Total Population of the Second Year Students at Islamic Junior High School of Darel Hikmah Pekanbaru

Classes	Gender	Total
VIII A 1	Female	26
VIII A 2	Female	35
VIII A 3	Female	33
VIII A 4	Female	35
VIII A 5	Female	36
VIII B 1	Male	26
VIII B 2	Male	27
VIII B 3	Male	30
VIII B 4	Male	30
VIII B 5	Male	29
Total Population		**307**

In this research, the researcher used simple random sampling to take the sample. Cohen et.al gives the explanation about this sample design:

[3] L.R. Gay and Peter Airasian, *Educational Research Competencies for Analysis and Application Sixth Edition* (New Jersey: Pearson Education, 2000), p. 121

> In simple random sampling, each member of the population under study has an equal chance of being selected and the probability of a member of the population being selected is unaffected by the selection of other members of the population.[4]

In random sampling design, each student has an equal chance of being selected to be the sample. Because the population was large, the researcher took 10% of the population to be the sample. According to Arikunto, if the population is more than 100 persons, the sample is taken between 10-15%, or 20-25%, or more than it.[5] Hence, the sample of this research was 31 students.

E. The Technique of Collecting the Data

There were two kinds of techniques used for collecting the data. They were:

1. Questionnaire

   According to Brown in Dornyei, Questionnaires are any written instruments that present respondents with a series of questions or statements to which they are to react either by writing out their answers or selecting from among existing answers.[6] It was used to find out the correlation between students' self-esteem and their achievement in learning English. The questionnaire consisted of 28 items and it dealt with the respondent's opinions in responding to the following options based on the Likert' - scale:

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[4] Louis Cohen et.al, *Research Methods in Education* (New York: Routledge, 2007), p. 321

[5] Suharsimi Arikunto, *Prosedur Penelitian Suatu Pendekatan Praktik* (Jakarta: PT. Asdi Mahasatya, 2006), p. 134

[6] Zoltan Dornyei, *Questionnaires in Second Language Research* (New Jersey: Lawrence Erlbaum Associates Publishers, 2003), p. 6

- Strongly agree
- Agree
- Undecided
- Disagree
- Strongly disagree

Table III.2
Matrix of Questionnaire

VARIABLE	INDICATORS	ITEMS
Self-Esteem	1. Self and Others	1,8,15,22
	2. Self Acceptance	2,9,16,23
	3. Self Reliance	3,10,17,24
	4. Self Expression	4,11,18,25
	5. Self Awareness	5,12,19,26
	6. Self Confidence	6,13,20,27
	7. Self Knowledge	7,14,21,28

2. Documentation

Documentation is defined as the data are obtained by collecting the written achieves such as books, documents, journals, and so on.[7] In this research, the data of the students' achievement in learning English were obtained by having their scores for the examination conducted by school. It was the record or document of the school. The table below is the category of students' achievement scores:[8]

[7] Hartono, *Statistik Untuk Penelitian* (Yogyakarta: Pustaka Pelajar, 2008), p. 128

[8] Suharsimi Arikunto, *Dasar-Dasar Evaluasi Pendidikan Second Edition* (Jakarta: Bumi Aksara, 2012), p. 281

Table III. 3
The Category of Students' Achievement

Scores	Category
80 – 100	Excellent
66 – 79	Good
56 – 65	Average
40 – 55	Fair
30 – 39	Poor

F. The Technique of Analyzing the Data

In order to find out whether there is a significant correlation between students' self-esteem and their English achievement, the data were analyzed by using statistical formula. The researcher used the score of questionnaire of variable X and documentation score of variable Y. To analyze the data of the students' self-esteem, the researcher used the formula:[9]

$$P = \frac{f}{N} \times 100\%$$

Where:

P = Number of percentage

F = Frequency

N = Number of sample

[9] Anas Sudijono, *Pengantar Statistik Pendidikan* (Jakarta: PT Raja Grafindo, 2011), p. 43

To analyze the correlation between students' self-esteem and their achievement in learning English, the researcher used Pearson product-moment correlation coefficient (r) technique as follows: [10]

$$r_{xy} = \frac{N \sum XY - \sum X \ (\sum Y)}{N \sum X^2 - \sum X^2 \quad N.\sum Y^2 - \sum Y^2}$$

Meanwhile, in order to get easy in analyzing the data, the researcher used SPSS 16.0 program for Windows. The product moment correlation coefficient was obtained by considering the degree of freedom (df) = N-nr; (N= number of sample, nr = number of variable)

Statistically the Hypotheses are:

$H_a : r_o > r_{table}$

$H_o : r_o \leq r_{table}$

H_a is accepted if $r_o > r_{table}$ or there is a significant correlation between the students' self-steem and their achievement in learning English.

H_o is accepted if $r_o \leq r_{table}$ or there is no significant correlation between the students' self-esteem and their achievement in learning English.

G. Validity and Reliability of Instrument

1. Validity

Creswell stated that validity is the individual's scores from an instrument make sense, meaningful, enable you, as the researcher, to draw good

[10] Hartono, *SPSS 16.0 Analisis Data Statistika dan Penelitian* (Yogyakarta: Pustaka Pelajar, 2010), p.53

conclusions from the sample you are studying to the population.[11] It means that validity is the extent to which inferences made from assessment results are appropriate, meaningful, and useful in terms of the purpose of the assessment. An instrument is valid if it is able to measure what must be measured.

According to Gay, there are three kinds of validity. They are content validity, criterion-related validity, and construct validity.[12] In this research, the researcher used construct validity. Siregar described that construct validity means the validity that relates to the ability of instrument to measure the concept of being measured.[13] Non-test instrument which is used to measure the attitude include in construct validity.

To analyze the validity of the data, the researcher used SPSS 16.0 program for Windows. The researcher used the item analysis in which the item scores is correlated with the total scores. According to Sugiyono, the item of questionnaire is valid if r = 0.3.[14]

Based on the try out result of the instrument validity to the 28 items, it showed that 19 items were valid and 9 items were not valid. It means that there were 19 items used in this research. In the following table is the result of the instrument validity.

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[11] Jhon W. Creswell, *Educaitonal Research Planning, Conducting, and Evaluating Quantitative and Qualitative Research* (New Jersey: Pearson Education Inc, 2008), p.169

[12] L.R. Gay and Peter Airasian, ***Op.Cit.,*** p. 163.

[13] Sofyan Siregar, *Statistik Parametrik untuk Penelitian Kuantitatif* (Jakarta: PT.Bumi Aksara, 2013), p. 77

[14] Sugiyono, *Metode Penelitian Pendidikan Pendekatan Kuantitatif, Kualitatif, dan R&D* (Bandung: Alfabeta, 2009), p. 187

Table III. 4
The Analysis of Self-Esteem Questionnaire Validity

Item	R	Status
1	0.28	Invalid
2	0.14	Invalid
3	0.42	Valid
4	0.07	Invalid
5	0.32	Valid
6	0.47	Valid
7	0.45	Valid
8	0.15	Invalid
9	0.50	Valid
10	0.32	Valid
11	0.29	Invalid
12	0.25	Invalid
13	0.43	Valid
14	0.30	Valid
15	0.37	Valid
16	0.54	Valid
17	0.25	Invalid
18	0.35	Valid
19	0.68	Valid
20	0.64	Valid
21	0.40	Valid
22	0.07	Invalid
23	0.54	Valid
24	0.10	Invalid
25	0.37	Valid
26	0.52	Valid
27	0.44	Valid
28	0.45	Valid

2. Reliability

Brown says that reliability has to do with accuracy of measurement. This kind of accuracy was reflected in obtaining of similar results when

measurement was repeated on different occasion or with different instruments or by different person. The characteristic of reliability was sometimes termed consistency.[15] The following table is the level of internal consistency of Cronbach Alpha:[16]

Table III. 5
A Commonly Accepted Rule of Thumb for Describing Internal Consistency by Using Cronbach Alpha

Cronbach Alpha	Internal Consistency
>0.90	Very highly reliable
0.80 - 0.90	Highly reliable
0.70 – 0.79	Reliable
0.60 – 0.69	Minimally reliable
<0.60	Unacceptably low reliability

To obtain the reliability of the questionnaire given, the researcher used SPSS 16.0 program to find out whether or not the questionnaire is reliable.

Table III. 6
Cronbach Alpha Table
Reliability Statistics

Cronbach's Alpha	N of Items
.704	29

From the table above, it can be seen that the value of cronbach's alpha is 0.704. Then, the researcher compared r_{11} to r_t. The $r_{11} = 0.704$ is higher than r_t at significance level of 5%, is 0.361 and at 1% level of significance is 0.463 where r_t (dk= N-1 = 30). It means that the items are reliable, where the value of

[15] H. Douglas Brown, *Language Assessment: Principles and Classroom Practices* (New York: Pearson Education Inc, 2003), p. 19

[16] Louis Cohen et.al, ***Op.Cit,*** p.506

internal consistency is $0.79 > 0.704 \geq 0.70$, so the reliability of questionnaire was reliable.